



May 2011

## **DRAFT: Public University Baccalaureate Follow-Up Study**

### **Executive Summary**

In Academic Years (AY) 2005-06 and 2006-07, more than 39,000 students were awarded baccalaureate degrees by one of Washington's public four-year institutions. This report presents the results of the first baccalaureate follow-up study conducted by the HECB to expand information necessary for statewide coordination and planning. The purpose of this study was to follow baccalaureate degree graduates to determine the extent to which they were able to secure employment in Washington or continue their education.

The study was specifically designed to answer the following questions.

1. Do students find jobs after completing a baccalaureate degree?

Yes. Approximately three-fourths of baccalaureate degree recipients worked in Washington at least one quarter during the first year following graduation. Approximately one-half worked full-time all year in Washington.

2. In what industries did graduates obtain employment?

Most of the baccalaureate degree recipients who were employed in Washington within one year of graduation entered educational services (15 percent); professional, scientific, and technical services (12 percent); health care and social assistance (12 percent); or retail trade (10 percent).

3. How much do baccalaureate degree recipients earn?

Graduates in 2005-06 who worked full-time in Washington and were not enrolled in postsecondary education earned approximately \$36,000 in the first year following graduation, increasing to \$43,600 by the third year following graduation, an increase of 21 percent. The highest median earnings were in the construction and manufacturing sectors.

4. Do students continue their education after completing a baccalaureate degree?

Yes. Approximately 20 percent of degree recipients re-enrolled in a postsecondary institution somewhere in the United States after completing a baccalaureate degree at a public university in Washington.

Information about employment and further education of Washington's public university graduates can help inform the discussion concerning the update to the *2008 Strategic Master Plan for Higher Education*, currently underway, as well as other coordinating and planning activities of the Higher Education Coordinating Board.

The full report is available on the HECB website at <http://www.hecb.wa.gov/>.



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## **Public University Baccalaureate Follow-Up Study**

### **Introduction**

This report provides the results of analysis of students who received bachelor's degrees from the public baccalaureate institutions in Washington during the 2005-06 and 2006-07 academic years. In Academic Years (AY) 2005-06 and 2006-07 more than 39,000 students were awarded baccalaureate degrees by one of Washington's public four-year institutions. The purpose of this study was to follow these students after graduation to determine the extent to which degree recipients were able to secure employment in Washington or continue their education.

The first portion of the report describes the general characteristics of the degree recipients, including race/ethnicity, age, gender, residency status, and primary field of study. The major sections of this report answer the following research questions:

1. Do students find jobs after completing a baccalaureate degree?
2. In what industries do graduates obtain employment?
3. How much do baccalaureate degree recipients earn?
4. Do students continue their education after completing a baccalaureate degree?

The remainder of the report provides an overview of institutional efforts to survey alumni, highlights some policy implications based on the results of the study, and outlines next steps.

### **Profile of Baccalaureate Degree Recipients**

As shown in Table 1 on Page 3, the University of Washington awards most of the public university baccalaureate degrees. Washington State University awards the next highest number of degrees while The Evergreen State College awards the fewest.

**Table 1: Number of Baccalaureate Degrees, by Institution, AY 2005-06 and 2006-07**

<b>Institution</b>	<b>2005-06</b>	<b>2006-07</b>	<b>Grand Total</b>	
	<b>Number</b>	<b>Number</b>	<b>Number</b>	<b>% of Total</b>
Central Washington University	2,000	2,245	4,245	11%
Eastern Washington University	1,715	1,805	3,520	9%
The Evergreen State College	1,234	1,131	2,365	6%
University of Washington	7,658	7,672	15,330	39%
Washington State University	3,119	4,584	7,703	20%
Western Washington University	3,033	3,020	6,053	15%
<b>Total</b>	<b>18,759</b>	<b>20,457</b>	<b>39,216</b>	<b>100%</b>

Source: Public Centralized Higher Education Enrollment System (PCHEES), provided by ERDC

## Demographic Profile

Table 2 below shows that most of the baccalaureate degrees awarded by the public universities went to Washington residents (90 percent), female students (56 percent), students under the age of 25 (69 percent), and white students (69 percent).

**Table 2: Demographic Characteristics of Baccalaureate Degree Recipients, AY 2005-06 and 2006-07**

<b>Student Characteristics</b>	<b>AY 2005-06</b>	<b>AY 2006-07</b>
	<b>(N=18,759)</b>	<b>(N=20,457)</b>
<b>Residents</b>	90%	90%
<b>Female</b>	56%	56%
<b>Age</b>		
Less than 23	39%	39%
23-24	30%	30%
25-29	16%	16%
30 or older	15%	15%
<b>Race/Ethnicity</b>		
American Indian/Alaska Native	2%	1%
Asian/Pacific Islander	11%	11%
African American/Black	2%	2%
Hispanic	4%	4%
White	69%	69%
Other	10%	9%
2 or More	2%	2%

Source: Public Centralized Higher Education Enrollment System (PCHEES), provided by ERDC

## Academic Profile

As shown in Table 3 below, more than one-half (59 percent) of the baccalaureate degrees awarded were Bachelor's of Arts and one-quarter were Bachelor's of Science degrees. The public universities awarded baccalaureate degrees in 12 broad disciplines: Agriculture and Natural Conservation, Architecture, Arts and Letters, Business, Computer Science, Education, Engineering and Related Technologies, Health, Law, Science, Social Sciences, and all others.

Almost two-thirds of the degrees were awarded in one of three fields (see Table 3): Arts and Letters (27-29 percent), Social Sciences (25-26 percent), or Business (15 percent). An additional 22 percent of degrees were awarded in Science (10 percent), Health (5 percent), Engineering and Related Technologies (5 percent), or Computer Science (2 percent). The predominant majors within each of the 12 broad disciplines are provided in Appendix A.

- More than one-half (53 percent) of the degrees awarded within Arts and Letters were in the fields of Communications, English Language and Literature, Liberal Arts, and Multidisciplinary or Interdisciplinary Studies.
- Nearly one-half (48 percent) of the Social Sciences degrees were awarded in the fields of Psychology, general Social Sciences, Political Science, and Sociology.
- Nearly three-fourths of all Business degrees were awarded in the fields of Business Administration and Management, Accounting, Marketing, and Finance.

**Table 3: Academic Characteristics of Baccalaureate Degree Recipients, AY 2005-06 and 2006-07**

Academic Characteristics	AY 2005-06	AY 2006-07
	(N=18,759)	(N=20,457)
<b>Degree Type</b>		
Bachelor of Arts	59%	59%
Bachelor of Science	25%	26%
Other	17%	15%
<b>Major</b>		
Agriculture & Natural Conservation	3%	2%
Architecture	1%	1%
Arts & Letters	29%	27%
Business	15%	15%
Computer Science	2%	2%
Education	6%	5%
Engineering & Related Technologies	5%	5%
Health	4%	5%
Law	0.4%	0.4%
Sciences	10%	10%
Social Sciences	25%	26%
Other	0.2%	0.2%

Source: Public Centralized Higher Education Enrollment System (PCHEES), provided by ERDC

## Post-Graduation Outcomes: Method

Records for baccalaureate degree recipients from academic years 2005-06 and 2006-07 were matched by the Education Research and Data Center (ERDC) against Unemployment Insurance wage records from the Employment Security Department (ESD) to determine what proportion of graduates worked in the state of Washington through spring of 2009. Businesses in Washington are required to submit individual level employment data to ESD on a quarterly basis. These records include the number of hours worked and quarterly earnings. Non-profit organizations and self-employed individuals, however, are not required to submit these data to the ESD if they do not participate in the unemployment insurance program. Therefore, data was not available for these individuals. Comparable data from other states also were not available, so this analysis does not account for graduates who may be working in other states. Given the limitations of the data, the analysis refers to graduates either as “working in Washington” or “not working in Washington”, but it is important to note that “not working in Washington” does not necessarily mean graduates are unemployed.

ERDC also matched records with enrollment and degree records in the National Student Clearinghouse to find out how many students continued their education after completing a baccalaureate degree.

Three years of post-graduation outcomes are available for the 2005-06 baccalaureate degree recipients, and two years are available for the 2006-07 degree recipients.

### Do students find jobs after completing a baccalaureate degree?

During the first year following graduation, nearly two-thirds of graduates worked at least one quarter in Washington and did not re-enroll in college (Table 4). An additional 12 to 13 percent worked in Washington and re-enrolled in postsecondary education. Approximately 6 to 7 percent re-enrolled in postsecondary education but did not work in Washington. The remaining 18 to 20 percent did not work in Washington and were not enrolled in postsecondary education.

In Years Two and Three the percent of graduates working declined while the percent “not working in Washington, not enrolled in college” and “enrolled in college, not working in Washington” increased -- possibly due to the state’s recent economic decline. It is also possible that by the second or third year after graduation, more students move out of state for various reasons. If they did, limitations on the data would not allow us to track them.

**Table 4: After-Graduation Work and Further Education of Baccalaureate Degree Recipients, One, Two, and Three Years after Graduation, AY 2005-06 and 2006-07**

After-Graduation Work and Further Education Characteristics of Baccalaureate Degree Recipients	2005-06			2006-07	
	(N=18,759)			(N=20,457)	
	Year 1	Year 2	Year 3	Year 1	Year 2
	(2006-07)	(2007-08)	(2008-09)	(2007-08)	(2008-09)
Worked in WA at least one quarter, not enrolled in college	64%	57%	54%	61%	55%
Worked in WA at least one quarter & enrolled in college	13%	14%	13%	12%	12%
Enrolled in college, did not work in WA <sup>1</sup>	6%	8%	9%	7%	9%
Did not work in WA <sup>1</sup> , not enrolled in college	18%	21%	25%	20%	24%

<sup>1</sup>Did not work in Washington; graduates may have worked in other states, were self-employed in Washington, or were employed by a Washington non-profit organization

Sources: Public Centralized Higher Education Enrollment System (PCHEES), ESD data, & National Student Clearinghouse provided by ERDC

Just over one-half (52 to 56 percent) of graduates worked a full year in Years One, Two, and Three following graduation (Table 5). Of those who did work an entire year in Washington, 72 percent or more worked in the same industry throughout any given year. By Year Three, 87 percent of the 2005-06 graduates who worked in Washington that entire year worked within the same industry all year. This indicates that graduates are less likely to change industries as their careers develop over the years following graduation.

Approximately one-fourth of graduates were not employed in Washington during all of Year One. By Year Three, one-third of graduates were not employed in Washington the entire year. The proportion of these graduates who enrolled in postsecondary education, however, remained constant at just above 25 percent in Years Two and Three. The increase in graduates who were not employed in Washington from Year One to Year Three could be due to several factors, including moving to other states or being self-employed or employed by a non-profit company and therefore not captured by the data used for this study.

**Table 5: Post-Baccalaureate Outcomes of Baccalaureate Degree Recipients, One, Two, and Three Years After Graduation, AY 2005-06 and 2006-07**

Post-Baccalaureate Outcomes	2005-06			2006-07	
	(N=18,759)			(N=20,457)	
	Year 1 (2006-07)	Year 2 (2007-08)	Year 3 (2008-09)	Year 1 (2007-08)	Year 2 (2008-09)
Employed in WA all year (four quarters)	54%	56%	54%	52%	52%
In same industry all year	72%	81%	87%	74%	84%
Employed in WA three quarters	9%	5%	5%	8%	6%
Employed in WA two quarters	6%	4%	4%	5%	4%
Employed in WA one quarter	8%	6%	5%	7%	5%
Did not work in WA <sup>1</sup> all year	23%	29%	33%	27%	33%
% enrolled in college	25%	27%	26%	25%	27%

<sup>1</sup>Graduates may have worked in other states, were self-employed in Washington or were employed by a Washington non-profit organization.

Sources: ESD data & National Student Clearinghouse provided by ERDC

### **In what industries do baccalaureate degree recipients obtain employment?**

Overall, most of 2005-06 and 2006-07 baccalaureate degree recipients who were employed in Washington within one year of graduation were most likely to be employed in the following industries: educational services (15 percent); professional, scientific, and technical services (12 percent); health care and social assistance (12 percent); or retail trade (10 percent). This trend continues into Year Two for both groups and into Year Three for the 2005-06 degree recipients.

Table 6 shows the top industries within each of the major degree areas for the 2005-06 graduates in the first year following graduation. Appendix B shows the top industries for the 2006-07 graduates in Year One.

**Table 6: Top Employing Industries by Discipline, Number and Percent of Graduates Working in Washington<sup>1</sup> during Year One, 2005-06 Graduates**

Major Discipline		Industry Where Employed
Agriculture & Conservation (N=300)		
	17%	Professional, Scientific, & Technical Services
	16%	Public Administration
	10%	Retail Trade
Arts & Letters (N=3,250)		
	12%	Retail Trade
	11%	Accommodation & Food Service
	11%	Educational Services
Business (N=2,002)		
	18%	Professional, Scientific, & Technical Services
	16%	Finance & Insurance
Computer Science (N=265)		
	29%	Professional, Scientific, & Technical Services
	26%	Information
Education (N=898)		
	79%	Educational Services
Engineering & Related Technologies (N=626)		
	37%	Manufacturing
	27%	Professional, Scientific, & Technical Services
Health (N=579)		
	70%	Health Care & Social Assistance
	12%	Educational Services
Sciences (N=1,042)		
	19%	Health Care & Social Assistance
	17%	Professional, Scientific, & Technical Services
	15%	Educational Services
Social Sciences (N=3,092)		
	15%	Health Care & Social Assistance
	12%	Educational Services
	10%	Retail Trade

<sup>1</sup>Employment status in the third quarter of the year following graduation. Graduates may have worked in Washington in some other quarter, worked in other states, were self-employed in Washington, or were employed by a Washington non-profit organization.

Sources: Public Centralized Higher Education Enrollment System (PCHEES) & ESD data provided by ERDC



### Changes in industries over time

Also of interest is the extent to which baccalaureate degree recipients change jobs over time. Although available data cannot be used to answer this question directly, it can be used to determine the extent to which individuals change industries over time. Of those who worked an entire year during the first year after receiving a baccalaureate degree, nearly three out of four worked in the same industry the entire year (see Table 5). The percent remaining in the same industry for an entire year increased to 87 percent in Year Three for the 2005-06 baccalaureate degree recipients (see Table 5). Not surprisingly, these results suggest that it may take a year or two for some graduates to find their places in the working world.

Of the 9,138 baccalaureate degree recipients from 2005-06 who were working in Washington during the third quarter of each of the three years after receiving their degree, 65 percent worked in the same industry each year. Although there appears to be some stability for many, over the course of three years the percent of 2005-06 baccalaureate degree recipients working in a given industry declined for every industry with only four exceptions. The percent of degree recipients working in Educational Services, Information, Manufacturing, and Public Administration increased between 4 and 11 percent between 2006-07 and 2008-09 (see Table 7). The percent of degree recipients not working in Washington increased 18 percent during the same timeframe. These are just trends and additional analyses are needed to determine whether any of these trends are significant. It may be that graduates are leaving Washington to work or that they are working for non-profit organizations or becoming self-employed, all of which would be legitimate reasons for not finding their records in the Washington UI data.

**Table 7: Employment<sup>1</sup> in Washington by Industry, 2005-06 Baccalaureate Degree Recipients, One, Two and Three Years after Graduation**

Industry	Year 1		Year 2		Year 3	
Accommodation & Food Services	972	5.2%	696	6.0%	571	5.2%
Administrative & Support Services	685	3.7%	552	4.7%	535	4.8%
Agriculture, Forestry, Fishing & Hunting	33	0.2%	38	0.3%	36	0.3%
Arts, Entertainment, & Recreation	290	1.5%	224	1.9%	203	1.8%
Construction	371	2.0%	382	3.3%	333	3.0%
Educational Services	1,775	9.5%	1,777	15.2%	1,862	16.9%
Finance & Insurance	829	4.4%	822	7.1%	726	6.6%
Health Care & Social Assistance	1,517	8.1%	1,483	12.7%	1,359	12.3%
Information	492	2.6%	542	4.7%	575	5.2%
Management of Companies & Enterprises	53	0.3%	57	0.5%	26	0.2%
Manufacturing	705	3.8%	763	6.5%	769	7.0%
Other Services (except Public Administration)	280	1.5%	265	2.3%	250	2.3%
Professional, Scientific, & Technical Services	1,401	7.5%	1,486	12.8%	1,372	12.4%
Public Administration	687	3.7%	768	6.6%	828	7.5%
Real Estate & Rental & Leasing	261	1.4%	243	2.1%	204	1.8%
Retail Trade	1,224	6.5%	931	8.0%	788	7.1%
Transportation & Warehousing	202	1.1%	192	1.6%	182	1.6%
Utilities	29	0.2%	42	0.4%	47	0.4%
Wholesale Trade	367	2.0%	390	3.3%	373	3.4%
Total Employed in Washington <sup>1</sup>	12,173	64.9%	11,653	62.1%	11,039	58.8%
Not Employed in Washington <sup>1</sup>	6,586	35.1%	7,106	37.9%	7,720	41.2%
Total 2005-2006 Graduates	18,759	100%	18,759	100%	18,759	100%

<sup>1</sup> Employment status in the third quarter of each year following graduation. Graduates may have worked in Washington in some other quarter, worked in other states, were self-employed in Washington, or were employed by a Washington non-profit organization.

Source: Employment Security Department data provided by the ERDC.

### **How much do baccalaureate degree recipients earn?**

Overall, 2005-06 graduates who worked full-time in Washington and were not enrolled in postsecondary education earned approximately \$36,000 in the first year following graduation (see Table 8). Over time, the median annual income increased by 21 percent in Year Three for a median annual income of \$43,600. Graduates who secured full-time jobs in Construction or Manufacturing earned the most in Years One, Two, and Three; although by Year Three graduates working in the Information industry were earning annual salaries that were on par with those paid to graduates working in Construction. Graduates who worked full-time in Leisure and Hospitality industries earned the least in all years. An analysis of the 2006-07 graduates shows similar trends (see Appendix C).

**Table 8: Median Annual Income<sup>1</sup>, 2005-06 Baccalaureate Degree Recipients, Working Full-Time in Washington and Not Enrolled in a Postsecondary Institution, One, Two, and Three Years after Graduation**

Industries Where Graduates Employed	Year 1	Year 2	Year 3
Administrative & Support Services	\$32,000	\$39,600	\$44,000
Construction	\$50,000	\$49,600	\$54,800
Educational Services	\$34,400	\$37,200	\$40,000
Finance, Insurance, & Real Estate	\$35,200	\$39,200	\$41,600
Health Care & Social Assistance	\$34,000	\$36,000	\$38,000
Information	\$43,200	\$47,600	\$54,400
Leisure & Hospitality	\$28,400	\$31,600	\$33,600
Management of Companies & Enterprises	*	\$49,600	*
Manufacturing	\$49,200	\$53,200	\$56,000
Natural Resources & Mining	*	*	*
Other Services (except Public Administration)	\$31,600	\$34,400	\$37,600
Professional, Scientific, & Technical Services	\$39,600	\$44,400	\$47,600
Public Administration	\$39,200	\$43,200	\$47,200
Trade & Transportation	\$31,600	\$37,200	\$40,000
Utilities	*	*	*
Total	\$ 36,000	\$40,000	\$43,600

<sup>1</sup>Annualized quarterly median income based on income reported for the third quarter of each year.

\*Number of employees are insufficient for the purposes of reporting income

Source: ESD data provided by ERDC

### **Do students continue their education after completing a baccalaureate degree?**

Approximately 20 percent of degree recipients enrolled in higher education somewhere in the United States within one year after completing a baccalaureate degree at a Washington public university. A large majority of these students (approximately 70 percent) continued their education at a Washington institution (see Table 9). Over time, however, the percent of 2005-06 baccalaureate degree recipients enrolled in Washington institutions decreased from 71 percent in Year 1 to 57 percent in Year Three while the percent enrolled in out-of-state institutions increased from 29 percent in Year One to 43 percent in Year Three. This trend is likely to be repeated by the 2006-07 baccalaureate degree recipients.

The analysis also showed that between 58 and 60 percent of students worked at some point during the same year they were enrolled in school, although the proportion of students doing so decreased over time. In any given year between 37 and 40 percent of enrolled students worked the entire academic year, which means that there was at least some overlap between working and attending classes. However, the data does not allow a precise analysis of the extent to which enrollment and employment overlap. While employment information is available for every quarter, enrollment records only show whether an individual was enrolled at any point during the academic year, not on a term-by-term basis.

**Table 9: Post-Baccalaureate Educational Outcomes, Baccalaureate Degree Recipients, AY 2005-06 and 2006-07, One, Two, and Three Years After Graduation**

Post-Baccalaureate Outcomes	2005-06			2006-07	
	Year 1	Year 2	Year 3	Year 1	Year 2
	(2006-07)	(2007-08)	(2008-09)	(2007-08)	(2008-09)
Total enrolled in college	3,475	4,001	4,033	3,838	4,370
Location & Institution Type					
Washington	71%	63%	57%	70%	64%
Public 4-Year	45%	36%	29%	45%	36%
Private 4-Year	11%	13%	15%	10%	12%
Public 2-Year	15%	14%	14%	16%	15%
Out-of-State					
Public 4-Year	13%	16%	18%	14%	16%
Private 4-Year	14%	18%	21%	14%	18%
Public 2-Year	2%	3%	4%	2%	2%
Private 2-Year	<1%	<1%	<1%	<1%	<1%
Working while in college					
Did not work in WA	31%	36%	41%	36%	42%
Worked at least one quarter in WA	69%	64%	59%	65%	58%
Worked all year in WA	38%	40%	40%	37%	37%

Sources: Public Centralized Higher Education Enrollment System (PCHEES), ESD data, & National Student Clearinghouse provided by ERDC

## Institutional Alumni Surveys

All six public baccalaureate institutions conduct some type of alumni survey on a regular basis. All survey their alumni during the first year after graduation. Several colleges survey graduates five years or more after graduation. In general, the surveys focus on post-graduation activities like work, school, and volunteerism. Some institutions also ask questions about satisfaction with academic programs and various student services.

In general, institutions tend to find higher rates of employment during the first year following graduation than the Employment Security data match that was the focus of this report. This is likely due in part to the institutions' ability to obtain employment information for graduates who were self-employed, working for non-profit organizations, or were working out-of-state. Unfortunately, these three groups were not available from the data match with Employment Security. There may also be some bias in the institutional survey findings as a result of self-selection and response rates by graduates who are working.

Most institutional surveys also find that graduates are generally satisfied with the quality of their education and the services provided by their respective institutions. Recent cuts to state funding for higher education, however, may change those perceptions in current and upcoming surveys. As a result of decreased state funding, institutions have increased class sizes, provided fewer courses, and reduced student services. Therefore, it will be important for institutions to monitor the responses to these questions in the years ahead.

The fiscal environment has also caused most institutions to cut back on their efforts to survey alumni. Some institutions have delayed their surveys. Others have continued to conduct their surveys but have cut back or eliminated strategies that enhanced their response rates and increased the reliability of the data. Some have resorted to web-only surveys, which generally have lower response rates unless supplemented with paper mailings and phone calls.

For more information about specific institutional surveys and their most recent survey findings, please see Appendix D.

## Policy Implications

The findings from this study have numerous policy implications, including but not limited to the following:

1. It is becoming increasingly difficult to promote the *2008 Strategic Master Plan for Higher Education* goals for economic growth and development in the state of Washington. As previously noted, the proportion of bachelor degree recipients working in Washington decreased over a three year period. However, it is unclear as to whether they are leaving Washington or dropping out of the labor force altogether for any number of reasons, such as to care for ailing family members or because of layoffs. If graduates are leaving the state, Washington should be concerned about retaining them here. If they are dropping out of the labor force, then they are going to add to the state's existing ranks of qualified but unemployed or under-employed people. If graduates cannot find jobs, this trend may make it even more difficult to encourage new graduates to consider science, technology, engineering, math, and other high-demand fields that typically attract fewer students.
2. New graduates need to be prepared for a difficult job market, and students in some majors may find the market more challenging than their peers in other majors. Therefore, graduates need to be prepared to pursue employment options that may not be as closely or as obviously aligned with their field of study. They need to know what options are available to them and how to market their skills and knowledge accordingly. Graduates may also need to relocate to other regions of the state or even to other states in order to find employment in their field of study. New graduates also should not expect to see their income increase as quickly as those who graduated before them.

3. Employability during a recession is different than employability during “normal” times. The results of this study are focused on students who completed their bachelor’s degrees just as the country, and Washington with it, was going into one of the most severe recessions in the nation’s history. Though pre-recession data were not available for this study, Western Washington University noted in reviewing their past surveys that even though a higher proportion of their graduates are finding work, more of them are working in fields unrelated to their major and more of them are working part-time. These findings suggest that, as noted in the preceding paragraph, students are in fact adapting to the recessionary environment.

## **Next Steps**

The findings included in this report provide a broad, general description of post-baccalaureate outcomes. Next steps include conducting more targeted analyses to see if the employment and educational outcomes vary based on race/ethnicity, gender, age, income, or residency status. HECB staff also plan to repeat this analysis every two years to support the development and implementation of the statewide strategic master plan and implementation of the system design plan.

## Appendix A

**Top Three Majors by Discipline**  
**All 2005-06 & 2006-07 Baccalaureate Degree Recipients**

Discipline / Major	Total	% of Discipline total
Agriculture & Natural Conservation	981	
Environmental Studies	213	22%
Environmental Science	209	21%
Parks, Recreation & Leisure Facilities Management	131	13%
Architecture	333	
Architecture	215	65%
City/Urban, Community & Regional Planning	66	20%
Landscape Architecture	52	16%
Arts & Letters	10,889	
English Language & Literature, General	1,095	10%
Liberal Arts & Sciences/Liberal Studies	2,081	19%
Multi-/Interdisciplinary Studies, Other	1,592	15%
Business	5,992	
Accounting	1,221	20%
Business Administration & Management, General	1,680	28%
Finance, General	806	13%
Computer Science	749	
Computer & Information Sciences, General	467	62%
Computer Science	192	26%
Information Technology	90	12%
Education	2,221	
Education, General	401	18%
Elementary Education & Teaching	419	19%
Special Education & Teaching, General	202	9%
Engineering & Related Technologies	2,019	
Civil Engineering, General	281	14%
Electrical, Electronics & Communications Engineering	380	19%
Mechanical Engineering	344	17%
Health	1,880	
Audiology/Audiologist & Speech-Language Pathology	210	11%
Nursing - Registered Nurse Training	1,044	56%
Dental Hygiene/Hygienist	108	6%
Law	143	

Sciences	3,819	
Biology/Biological Sciences, General	725	19%
Natural Sciences	292	8%
Biochemistry	307	8%
Social Sciences	10,122	
Psychology, General	1,726	17%
Political Science & Government, General	1,164	11%
Sociology	1,025	10%
All Others	68	

Source: Public Centralized Higher Education Enrollment System (PCHEES) provided by ERDC



## Appendix B

**Top Employing Industries by Discipline  
2006-07 Graduates  
Employed in Washington During Year 1**

Major Discipline	Industry Where Employed	
Agriculture & Conservation (N=303)		
	14%	Professional, Scientific, & Technical Services
	14%	Public Administration
	11%	Accommodation & Food Service
Arts & Letters (N=3,147)		
	13%	Retail Trade
	12%	Accommodation & Food Service
	12%	Educational Services
Business (N=2,061)		
	18%	Professional, Scientific, & Technical Services
	14%	Finance & Insurance
	11%	Retail Trade
Computer Science (N=300)		
	29%	Information
	24%	Professional, Scientific, & Technical Services
	11%	Manufacturing
Education (N=950)		
	79%	Educational Services
Engineering & Related Technologies (N=652)		
	35%	Manufacturing
	32%	Professional, Scientific, & Technical Services
Health (N=699)		
	77%	Health Care & Social Assistance
Sciences (N=1,084)		
	18%	Health Care & Social Assistance
	17%	Educational Services
	16%	Professional, Scientific, & Technical Services
Social Sciences (N=3,377)		
	15%	Health Care & Social Assistance
	13%	Educational Services
	12%	Retail Trade

## Appendix C

**Median Annual Income<sup>1</sup>**  
**2006-07 Baccalaureate Degree Recipients**  
**Working Full-Time in Washington and Not Enrolled in a Postsecondary Institution**  
**One and Two Years After Graduation**

	Year 1	Year 2
Administrative & Support Services	\$33,600	\$40,800
Construction	\$48,000	\$50,400
Educational Services	\$36,000	\$38,000
Finance, Insurance, & Real Estate	\$36,400	\$39,600
Health Care & Social Assistance	\$36,000	\$37,600
Information	\$44,000	\$49,600
Leisure & Hospitality	\$26,800	\$31,200
Management of Companies & Enterprises	*	*
Manufacturing	\$48,800	\$50,000
Natural Resources & Mining	*	*
Other Services (except Public Administration)	\$28,400	\$32,400
Professional, Scientific, & Technical Services	\$40,400	\$45,200
Public Administration	\$40,000	\$42,800
Trade & Transportation	\$33,600	\$37,200
Utilities	*	*
Total	\$36,800	\$40,800

<sup>1</sup>Annualized quarterly median income

\*Number of employees are insufficient for the purposes of reporting income

Sources: Public Centralized Higher Education Enrollment System (PCHEES) & ESD data provided by ERDC

## Appendix D

**Information on Public University Baccalaureate Alumni Surveys**

Central Washington University (CWU) currently makes its general alumni survey available to all alumni year round by posting a link on the web. The survey focuses on academic and societal skills, instructional services, and current employment or educational endeavors. Career Services directs students to the survey during the first year following graduation. Various other departments, such as Registrar Services and Alumni Relations, also highlight the link to the survey when alumni contact them for information or services. This new process was implemented in Spring 2010 as a joint effort by Institutional Research and Career Services. Prior to this, CWU had biennially conducted one-year and five-year surveys; however, due to a lack of resources, the institution opted for this new approach. No data from the new survey have been analyzed at this time.

Other alumni surveys are also conducted by other departments for various reasons. Academic departments survey their alumni every five years as part of a program review process primarily for the purpose of assessing the quality of their curriculum, though there are typically questions about employment and continued education. Career Services also periodically surveys alumni regarding employment and continued education. The most recent Career Services phone survey of 2008-09 graduates showed that approximately half of the respondents were employed and not seeking work. Approximately 18 percent were enrolled in a postsecondary institution.

Additional information about the general alumni survey is available from the Office of Institutional Research (<http://www.cwu.edu/~ir/index.php>).

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Eastern Washington University (EWU) surveys baccalaureate degree recipients one year after graduation. The survey focuses on graduates' satisfaction with EWU's contribution to their academic and personal growth.

The most recent survey targeted degree recipients from the 2003-2004 and 2006-2007 academic years. Highlights from that survey include:

- The outcomes where survey respondents were most satisfied with EWU's contribution were
  - Working cooperatively in a group (93 percent)
  - Professional ethics (87 percent)
  - Defining and solving problems (87 percent)

- Integrating theory into practice (86 percent)
  - Understanding and appreciating different philosophies and cultures (86 percent)
  - Learning independently (86 percent)
- Approximately 13 percent of graduates responded.

Additional survey results are available from the Office of Institutional Research at <http://access.ewu.edu/Institutional-Research.xml>

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The Evergreen State College (TESC) surveys degree recipients one and five years after graduation. The One-year Alumni Survey is administered every other year and the Five-Year Alumni Survey is administered once per accreditation cycle. The Greeners at Work Alumni and Employer Survey is conducted approximately every 4 years, but at least once per accreditation cycle; it surveys Alumni three years after graduation and then surveys the current supervisor of the alumni regarding their performance on the job. The surveys focus on satisfaction with TESC, employment, volunteer activities, learning attributed to Evergreen, post-baccalaureate education, and recommendations to improve the college.

TESC sends an email that includes a link to an online survey for those with an email address on file, followed by a paper survey for non-respondents. Those who do not have an email address receive a paper survey. Reminders are sent via email and mail. An Evergreen decal is sent as a thank you to those who participate.

The most recent one-year survey was sent to students who received baccalaureate degrees during the 2006-2007 academic year, one year after graduation. Highlights from that survey include:

- 82 percent were employed.
  - 65 percent were employed in fields that at least somewhat related to their area of study.
  - Two-thirds were employed full-time.
  - Just over three-fourths reported that TESC prepared them adequately or very well for their current job.
- Nearly one-fourth of respondents had attended or were currently enrolled in graduate or professional programs.
- 88 percent somewhat or strongly agreed that they would choose TESC again if they could start college over.
- Approximately 34 percent of graduates responded.

Additional survey results are available from the Office of Institutional Research at <http://www.evergreen.edu/institutionalresearch/home.htm>

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Since 1978, the University of Washington (UW) has been surveying baccalaureate and graduate degree recipients one year after graduation either annually or biennially. The University also surveys alumni five and ten years after graduation on a biennial basis. The surveys collect information about alumni activities following graduation with a focus on employment, education, satisfaction with their UW education, and volunteer activities.

UW currently mails paper copies of the questionnaire with a UW decal as an incentive. A second paper copy is mailed to non-respondents after three weeks. The cover letters also provide a web link for those who wish to complete the questionnaire online.

The most recent one-year survey focused on students who completed degrees any time during the 2009 calendar year. Highlights from that survey include:

- 76 percent of graduates were working.
  - 18 percent of those working were working part-time.
  - Approximately 53 percent were earning less than \$2,500 per month.
  - More than 80 percent were working Washington with the vast majority of these working in King, Pierce, or Snohomish County.
- Approximately 21 percent were continuing their education.
- The majority of respondents were satisfied with the education they received from the University.
- Approximately 22 percent of bachelor's degree recipients responded to the survey.

Additional survey results are available from the Office of Educational Assessment at <http://www.washington.edu/oea/index.html>

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Washington State University (WSU) typically surveys baccalaureate degree recipients one year after graduation biennially. The surveys focus on satisfaction with WSU, employment, education, time to degree, and volunteer service.

WSU emails a link to an online survey followed by a letter directing them to the online survey. WSU offers various prizes to randomly selected respondents.

The most recent survey targeted students who completed a baccalaureate degree during 2005-2006 academic year, one year after graduation. Highlights from that survey include:

- 86 percent were employed with an annual median salary of \$38,000.
  - College of Business graduates had the highest rate of employment (94 percent).
  - College of Engineering and College of Nursing graduates reported the highest median annual incomes, \$55,220 and \$52,000 respectively.
  - Graduates working in fields closely related to their field of study reported higher salaries than those not working in related fields.
  - Just over half of the unemployed respondents reporting "I was in school" as the primary reason for being unemployed.

- 72 percent reported that WSU was “very worthwhile” as an educational investment.
- Approximately 27 percent of all baccalaureate degree recipients completed the survey.

Additional survey results are available from the Office of Institutional Research at <http://ir.wsu.edu/>

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For nearly 30 years, Western Washington University (WWU) has conducted an annual survey (consisting of rolling, quarterly data collection) of its bachelor’s and master’s degree recipients, as well as recipients of teacher certifications. The survey takes place 3 - 6 months following graduation and includes questions about educational, internship, and employment outcomes.

WWU currently utilizes a web-based survey via an emailed invitation, followed by mailed paper surveys, and finally telephone calls.

The most recent survey data available come from the survey of 2009-10 degree recipients. Highlights from that survey include:

- Slightly more bachelor’s degree recipients are finding employment than in the previous year (72% in 2009-10 compared to 69% in 2008-09).
  - Those who do find employment were less likely to be employed in jobs that relate to their field of study (44% field related) and were more likely to be working only part-time compared to prior year graduates.
  - Overall, 2009-10 graduates were earning approximately the same starting salary (\$34,068) as the 2008-09 graduates.
  - Graduates who completed an internship were more likely to find jobs faster, find jobs in their field, and earn higher starting salaries.
- The percent of bachelor’s degree recipients choosing to continue their education in the year following the completion of their bachelor’s degree remained relatively high (14.3%).
- Approximately 54.5 percent of bachelor’s degree recipients completed the survey.

Additional survey results are available from the Career Services Center at: [www.careers.wvu.edu](http://www.careers.wvu.edu).